

NEXTCHEM'S commitment to the energy transition: MYREPLAST technology for plastic waste Upcycling

A NEW "PRODUCTS-FROM-WASTE" APPROACH FOR INNOVATIVE PLASTIC WASTE UPCYCLING

With the global stage projected, at an unprecedented pace, towards increasingly challenging objectives for plastic waste recycling that drive the discovery of new and consolidated industrial solutions for recycled polymers, NextChem has patented a new technology - MyReplast - which allows to invert the common and usual "waste-to-market" approach into a customer driven "products-from-waste" strategy. Starting from the downstream market demand in terms of polymer quality, our technology can transform a plastic waste material into a secondary raw material with chemical-physical characteristics and mechanical properties similar to virgin polymers from fossil sources. We have named such a new approach "Upcycling".

OUR MYREPLAST UPCYCLING TECHNOLOGY AND ITS MAIN CHARACTERISTICS

The MyReplast Upcycling technology combines mechanical recycling and chemical modification allowing to produce plastic products of high purity and quality by means of a proprietary recycling process and to improve the performance of the resulting plastics through a subsequent formulating and compounding stage, according to specific customer requirements.

Our patented MyReplast technology has the following key characteristics:

- High flexibility: our technology allows to treat various types of incoming plastic waste, both from industrial sources (for example production scraps and rejects of automotive components production, food packaging and industrial packaging waste) and post-consumer sources like urban unsorted waste.
- Premium quality of finished products: the MyReplast Upcycling technology allows to produce high quality recycled



MyReplast granulate



Color sorted MyReplast flakes

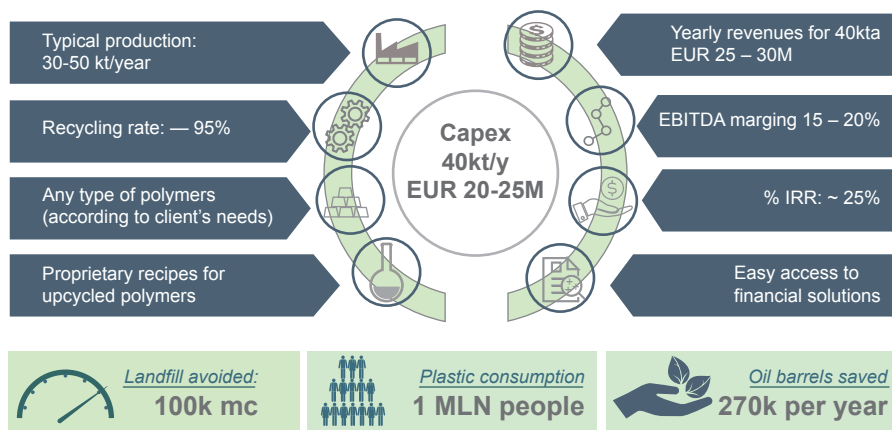


Flakes from first phase of recycling process



A phase from the recycling process

Key figures – Complete sorting & Upcycling plant



polymers with a recycling efficiency of around 95%. This is an essential feature to approach high added value "premium" markets and bridge the qualitative gap between recycled plastic and virgin plastic from fossil sources.

OUR REFERENCE INDUSTRIAL PLANT IN ITALY

Our reference industrial plant is located in Bedizzole (Brescia, Italy). The plant is managed by our subsidiary MyReplast Industries. The plant is currently among the

largest in Europe and produces approx. 40,000 tons/year of recycled polymers.

The application of the Group's procedures and plant building skills to the new plastics recycling business offers interesting opportunities in a sector that needs to industrialize the regeneration cycle of plastic materials.

MYREPLAST PRODUCTS

MyReplast recycled polymer products are high performance post-consumer recycled materials of consistent quality, designed to meet customer requirements.

Our technology offers tailored products in accurately sorted and selected flakes as well as in regenerated or fully compounded granulate, designed to consistently perform according to specific technical customer requirements while respecting agreed quality specifications. All MyReplast products are certified post-consumer products, available in color-selected flakes and in colorable or custom-colored granulate.

VALUE ENHANCEMENT IN THE UPCYCLING PROCESS

There are various levels of value enhancement in the Upcycling process, that can be achieved by applying one or more up-cycling steps. Depending on the customer

“Waste plastic recycling needs to be industrialized”

P. Folgiero— CEO of Maire Tecnimont and NextChem

requirements for purity, properties, colour and physical form, several up-cycling steps can be combined, added, or omitted, to achieve the best cost-performance balance and margin.

THE GOAL: TO INDUSTRIALIZE CIRCULAR ECONOMY

“Maire Tecnimont, thanks to its leadership in the engineering and construction of hydrocarbons-based polymer plants, can play a role of accelerator in the Circular Economy, which consists in the reutilization and recycling of polymers to create

“Plastic waste is the oil of the third millenium”

P. Folgiero— CEO of Maire Tecnimont and NextChem



Top quality recycled polymers from our MyReplast Technology.

new raw materials and avoid dispersion in the environment” quotes Pierroberto Folgiero, CEO of NextChem and CEO of Maire Tecnimont. As a matter of fact, all players of the value chain have an urgency and an opportunity to address the plastic recycling issue, in different ways. Petrochemical companies are well positioned to take advantage of plastics recycling. As demand for recycled plastics will increase, by 2030 naphtha-based polymers are expected to see a downturn in their demand. Therefore, petrochemical and chemical players must be ready to offer a portfolio of products that also integrates recycled feedstock. This will require forward integration into the value chain, by taking stakes into recycling, also benefiting from operational synergies of industrial operations. Plastic packaging producers will need to secure a constant and increasing supply chain of new “circular” raw materials with high quality and competitive prices. To facilitate and accelerate the availability of such products, plastic converters will need to co-invest in recycling assets and technology, thus integrating backward in the value chain. Finally, through a backward integration into plastic waste recycling and investments in innovative technologies, waste management companies also have an opportunity to create additional value to the traditional business. Currently non-recyclable plastics that are directed to landfill could be recycled and reused, thus extracting more value through recycling also represents a solution to the progressive saturation of incineration capacity.

→THE MAIRE TECNIMONT GROUP

Maire Tecnimont S.p.A., a holding company listed on the Milan Stock Exchange, is a leading industrial group in the processing of natural resources, boasting advanced technological and executive skills in the engineering and construction of downstream oil & gas large-scale projects. The Maire Tecnimont Group is present in 45 countries with about 50 operating companies employing approx. 6,300 people, including 3000+ professionals in electrical instrumentation.

→NEXTCHEM AND ITS ROADMAP FOR ENERGY TRANSITION AND CIRCULAR ECONOMY

Maire Tecnimont Group kicked off its Green Acceleration project through the launch of NextChem. NextChem is Maire Tecnimont's subsidiary operating in the field of green chemistry and technologies for the Energy Transition.

NextChem is managing a portfolio of several technological initiatives along a roadmap towards Energy Transition, which is composed of three areas of activity: Greening the Brown, Circular Economy and Green Green. “Circular Economy” is focused on the implementation and further optimization of the recycling of plastics and other waste materials: from the mechanical and chemical recycling of plastic materials to regenerate polymers up to the waste-to-chemicals technologies which can produce renewable gas, hydrogen or any traditional chemical by chemical conversion of waste.